PLEASE NOTE--

If the amplifier or hi-fi used with the MINI-SYNTHESIZER does not have a three-prong, grounded AC power plug, you may notice that the synthesizer's sound becomes impure when the pitch bend slider is all the way down. Sometimes this "AC hum" can be corrected by reversing the power plug in the wall socket. If this does not solve the problem, it is necessary to establish a ground between the amplifier or hi-fi and the wall socket. For this purpose, an insulated wire of sufficient length with spade lugs on both ends can be obtained at electronic and electrical supply stores or hardware outlets. Secure one end of the wire to the central screw on the wall socket, and the other end to the amplifier. Some hi-fi's have a screw marked "GROUND" or "GND" for this purpose. Otherwise, any screw which contacts the metal chassis of the amplifier can be used.

Warranty

For complete warranty information, consult your warranty/ registration card. In the event that it should become necessary to return this unit to the factory for repair, please incule $7.50 (£3.75 in the U.K.) to cover the costs of handling and return shipping.

MINI SYNTHESIZER

operating instructions

ELECTRO HARMONIX

NEW YORK: 27 West 23rd Street, New York, N.Y. 10010
LONDON: Unit F24, Park Hall Trading Estate, Martell Road SE21
TORONTO: 379 Adelaide St. West, Suite 202, Toronto, Ont. M5V1S5
TOKYO: 1-34 Koshiji Bldg., Jinbocho, Chiyoda-Ku, Tokyo

MADE IN U.S.A.

MINI-SYNTHESIZER

User's Guide

Getting Ready--

The MINI-SYNTHESIZER gets power from either its own two 9 volt transistor batteries which are included, or from a 9 volt AC adaptor which can be plugged into the small socket on the right of the synthesizer's rear panel. When replacing the batteries, use only alkaline batteries. Using a Philips screwdriver, remove the four screws on the sides of the synthesizer and shake out the rear cover. The battery holders and clips are located near the AC adaptor socket. The MINI-SYNTHESIZER will operate with only one battery, but only for a short time. When replacing the rear cover, be sure that the cutouts on one side are positioned over the sockets on the rear panel.

The MINI-SYNTHESIZER can be played either through its own amplifier and speaker, or through an outside amplifier and speaker by connecting the OUTPUT JACK to a musical instrument amplifier with a $\frac{1}{4}$" phone cable. When using a home stereo for an amplifier, a $\frac{1}{4}$" phone plug to "RCA-type" adaptor must be used in order to plug into the AUXILIARY inputs on the stereo. "Y" adaptors, which are available at electronics stores like Lafayette and Radio Shack, will allow you to use both channels on the stereo. The MASTER VOLUME positions shown on the charts in these instructions are for use with the MINI-SYNTHESIZER's own speaker. When using an outside amplifier, lower positions would usually be used.

Turning On!

To get started, match the positions of all the MINI-SYNTHESIZER controls to the "LEAD GUITAR EFFECT" chart. Adjust the MASTER VOLUME control to your preference. Play the synthesizer, pushing the PITCH BEND control up when notes are to be "bent." Return the control to the very bottom to be sure you are back at the original pitch. PITCH BEND can also be use as a tuning control.

Push the OCTAVE switch down to hear the same effect two octaves lower. Return the OCTAVE switch to the upper position, and try blending in some SUBOCTAVE by moving the control up. SUBOCTAVE is one octave below the normal pitch.

When the PHASE switch is in the lower position, the PHASE RATE control acts as a tone control. When the PHASE switch is up, PHASE RATE determines the speed of a sweeping tone change which gets slower in higher positions.

The next six controls all affect the MINI-SYNTHESIZER's filter to change the tone of the sound. The filter can be swept, starting at the frequency set on the SWEEP START control, and stopping at the frequency set on the SWEEP STOP control. SWEEP RATE controls the time it takes for the complete sweep. Higher settings produce longer sweep times. If the two frequency controls are in the same position, there will be no sweep, just a tone change. The tone can be changed when the filter is not sweeping just by moving the SWEEP STOP control.

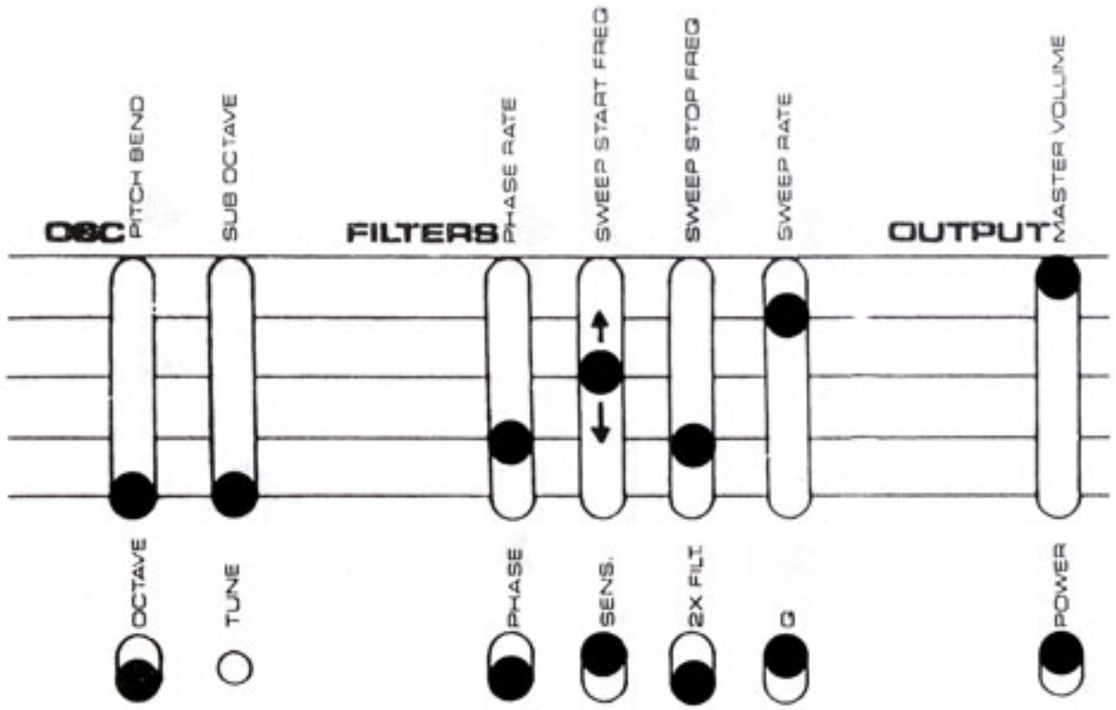
When the SENS. switch is in the upper position, the MINI-SYNTHESIZER's special impact sensor is engaged. If the start and stop controls are brought down to around the second line from the bottom, the sweep will start higher as the keys are played harder.

In the up position, 2X FILTER turns on a second filter to give the sound a quality similar to a voice. Q gives the sound a sharper quality when up.

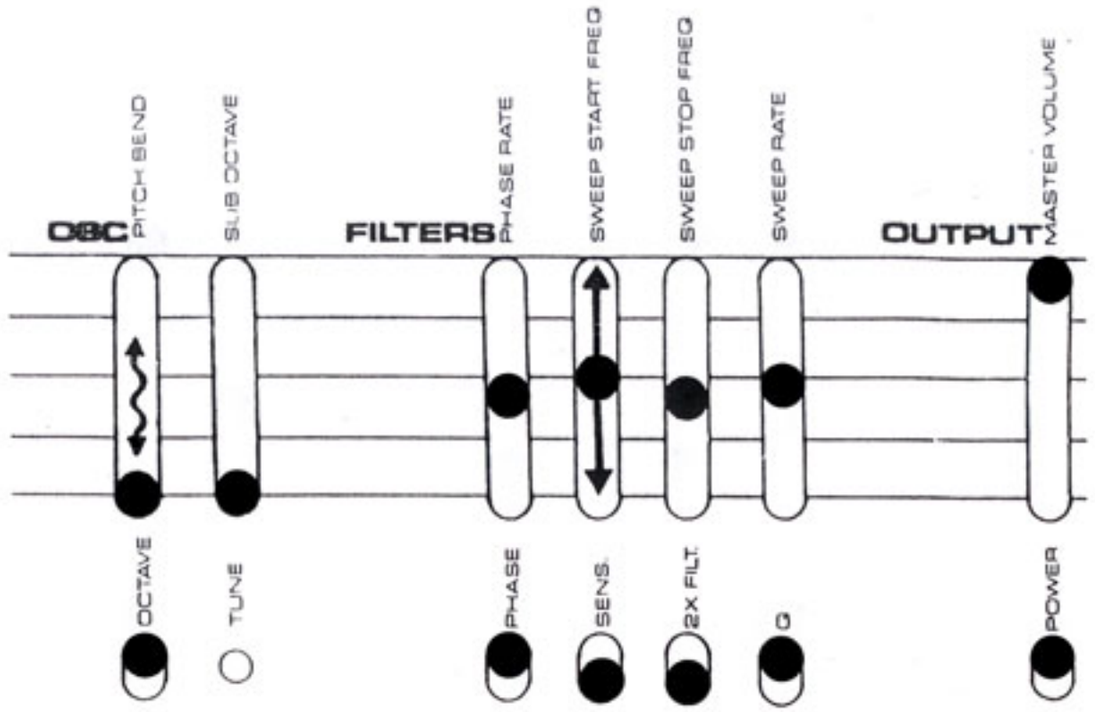
Experiment with the MINI-SYNTHESIZER as much as you like. No cobination of control settings can hurt anything, and you will find many of your own new sounds!

Warranty

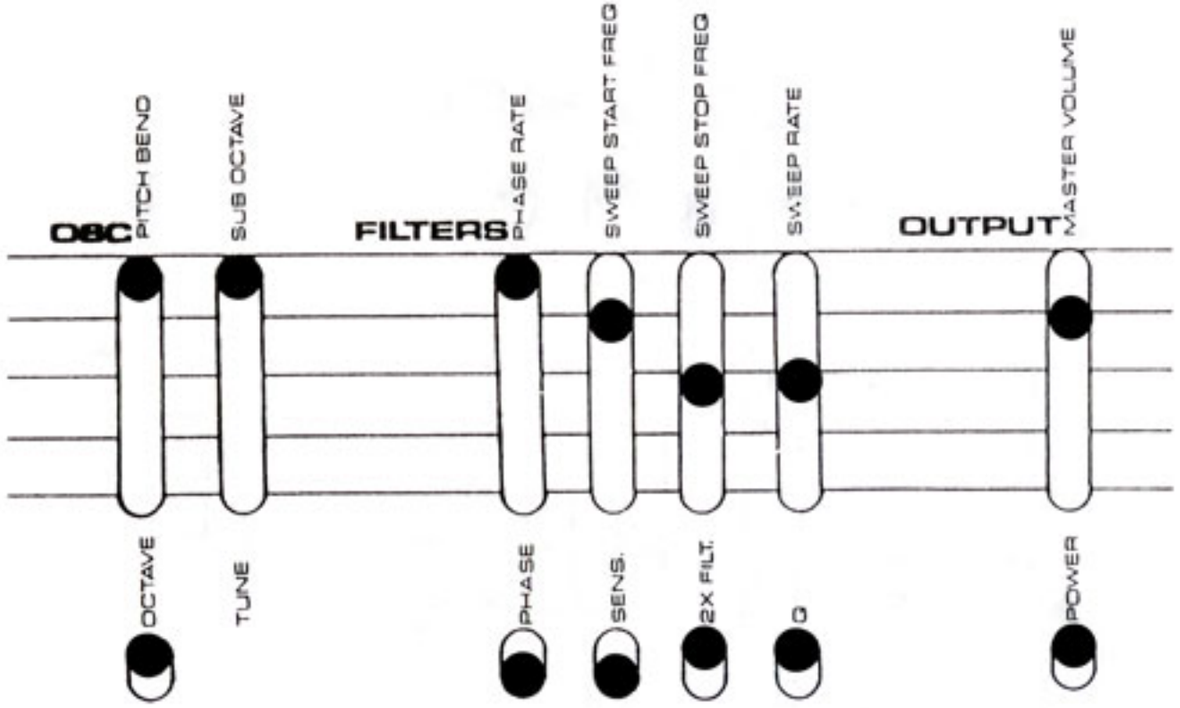
For complete warranty information, consult your warranty/registration card. In the event that it should become necessary to return this unit to the factory for repair, please include $7.50 (£3.75 in the UK) to cover the costs of handling and return shipping.



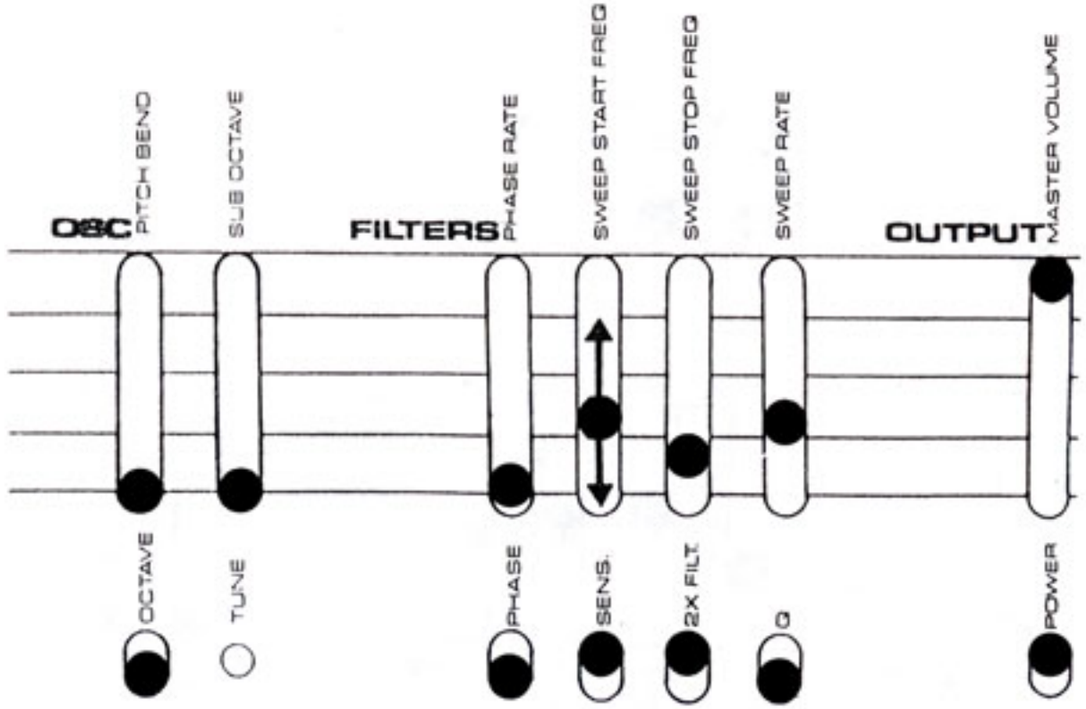
ELECTRIC CLAVICHORD EFFECT



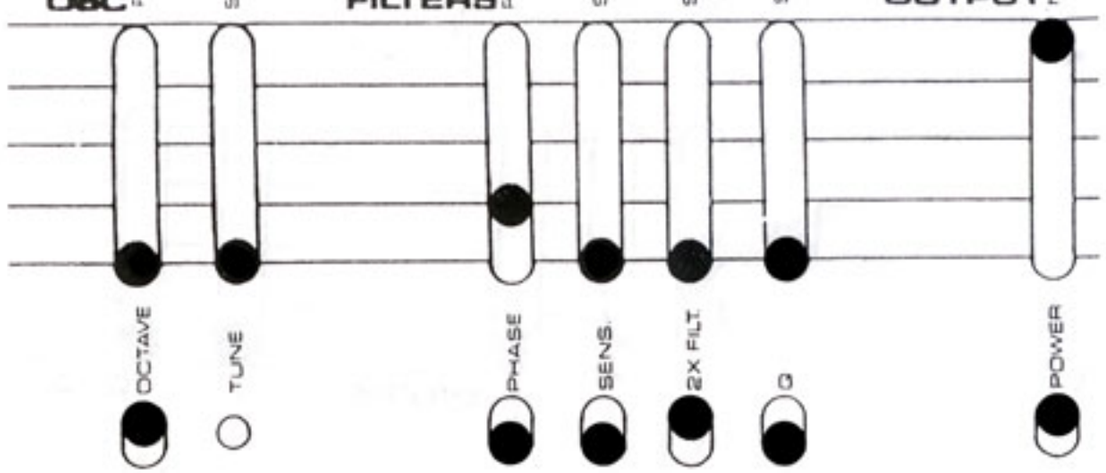
LEAD GUITAR EFFECT



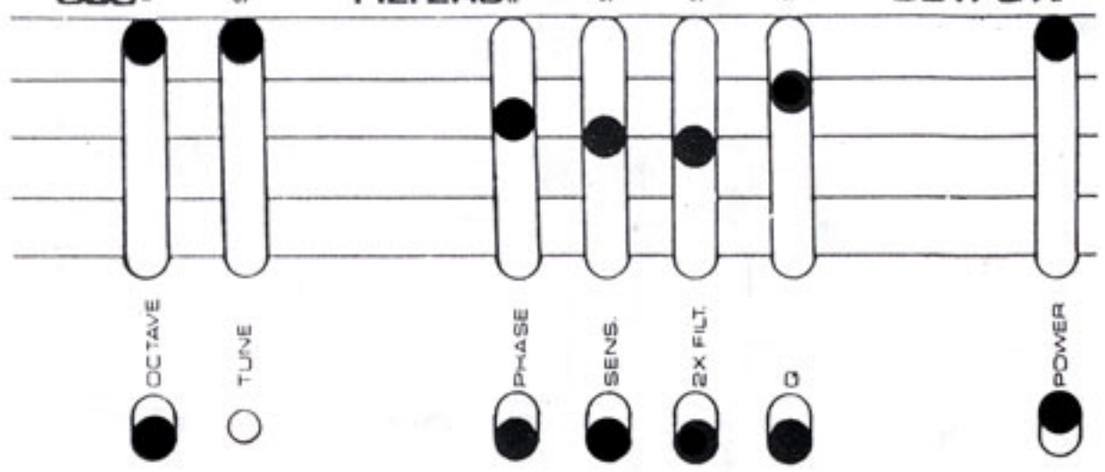
RING MODULATOR EFFECT



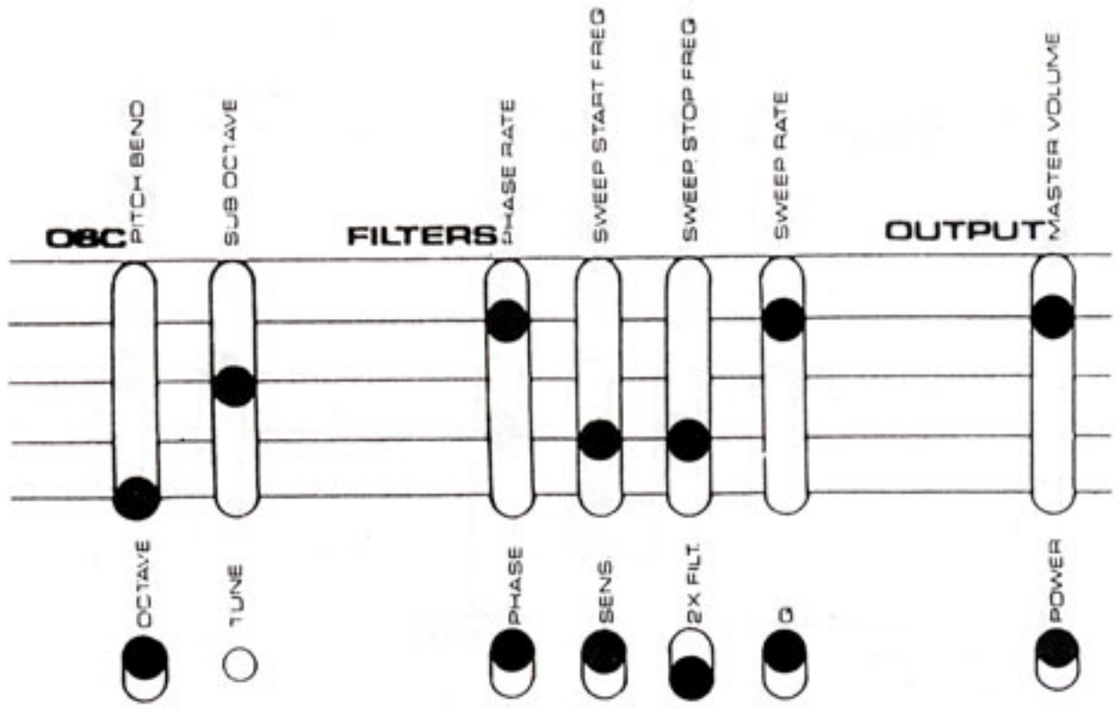
SYNTHESIZER BASS EFFECT



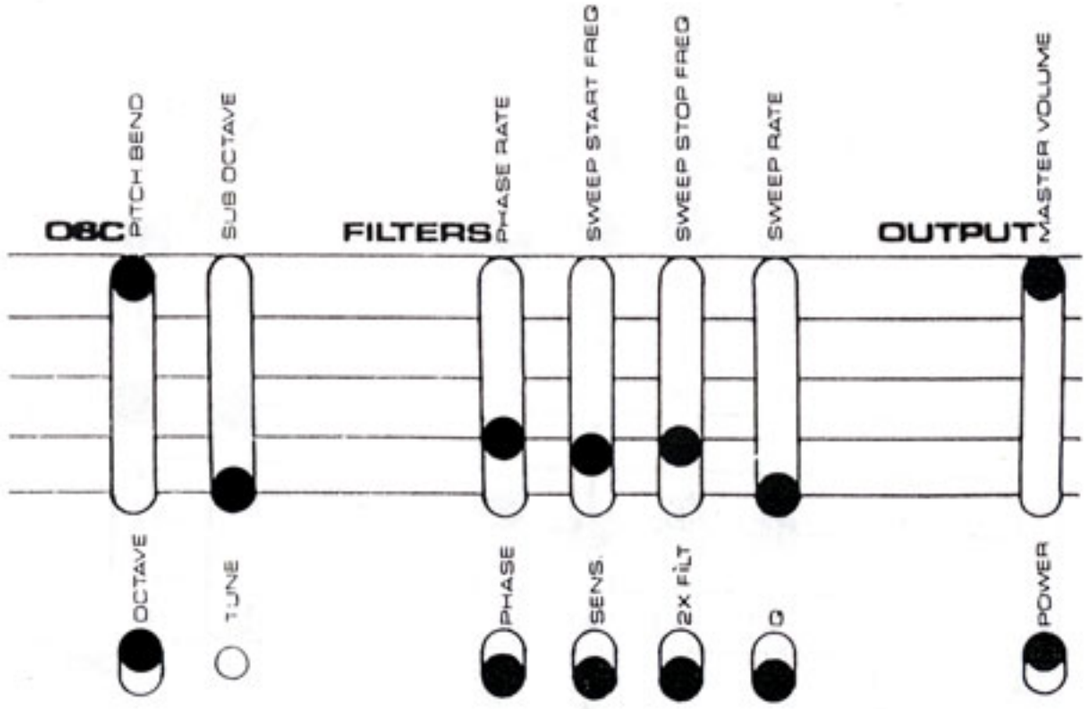
FLUTE EFFECT



ORGAN EFFECT



RICH SOUND



PICCOLO EFFECT

ELECTRO **EI** HARMONIX

MINI·SYNTHESIZER

MODEL TEN 0400

TOP NOTE

2K7 3K3 3K3 3K3 3K3 3K9 3K9 4K3 4K3 4K7 5K1 5K1 5K6 6K2 6K2 6K8 6K8 7K5 8K2 8K2 8K2 10K 10K 10K (LOWC)

INTONATION

5K PR1

R1 33K

R2 4K7

IC1 ¼LM339

D1

D2

D3

R3 10K

R4 15K

R5 30K

R6 150K

+3V

+2.7V

C3 10µTANT

R7 18K

R8 22K

VR3 100K PHASING

R9 220K

R10 150K

PHASE SWEEP

S2

R11 130K

R12 47K

R13 220K

+5.7V

IC1 ¼LM339

C4 .001

OUTPUT

PITCH BEND

VR1 10K

R14 27K

R15 680K

R16 12K

PR2 5K

FINE TUNE

R17 2K7

OCTAVE

S1

C1 .056 5%

C2 .056 5%

R70 1M

LEFT

IC4 CD4013

SUB OCTAVE

VR2 100K

C7 10µ

C5

IC1 PIN 14

R20 10K

VR4 START FREQ 10K LIN

Q1 2N4354 or PN4354

VR5 STOP FREQ 100K LIN

VR6 RATE

R21 3K9

100K ANTI LOG

R19 100K

Q2 2N5088

TOUCH DYNAMICS

S3

Q3 2N5087

R18 4K7

C6 4µ7 TANT

Q4 2N5088

R22 1M5

R23 10K

R24 10K

IC2 CA3094

R25 1M

R26 330K

R27 33 ±1

C8

R28 270

R29 2K7

C9 680P

RESONANCE

S5

R34 330K

R33 1M

R36 270

C12 .033

C13 680P

R35 33

R37 27K

C14 10N

IC3 CA3094

C10 .01

C11 1µ

VR7 VOLUME

100K LIN

R32 5K6

R31 10K

+9V TO IC1 PIN 3

R30 47

DOUBLE FILTER

10K

S4

R38 47

R40 5K6

+2.7V

C15 .033

4Vp-p

F G H

R41 33K

R42 4K7

C16 33µ

R43 120

R44 10K

Q5 2N5088

+6V

6.8V 5%

C17 100µ

+9V (+12V WITH ADAPTOR)

C19 220µ

IC5 TBA820M

R45

C18 .015

C20 .22 TANT

SPEAKER 8Ω

POWER

S6

9V ALKALINE BATTERY

POWER ADAPTOR

RIGHT

HIGHEST R 57

C 20

D 4

Q 5

VOLTAGES SHOWN FOR TEST 1

MOUSE ORGAN III		
DATE	CHANGE	INIT
24 JULY 79		COCKRELL
DEC 79	R10 220K → 150K, R13 150K → 220K	DL

EH MINI-SYNTH